recognition of carbohydrates on target cells (See: Microbial Lectins and Agglutinins. 1996. John Wiley and Sons, N.Y. and Jutila, M.A. *et al.* 1989. In: Leukocyte Adhesion, Edited by Springer, *et al.* Springer-Verlag, p. 211-219). These attachment molecules are chemically defined as glycoproteins and control a myriad of biological events. Microbial CBP receptors, like selectins on inflammatory cells, serve as molecules of recognition in cell-cell interactions. BDP receptors bind reversibly and noncovalently with mono or oligosaccharides, both simple and complex whether free in solution or on cell surfaces.--

D44

Please delete the paragraph at page 74, line 2, and insert the following paragraph:

--Pathogenic organisms have acquired an array of protein molecules that functionally mimic those involved in regulating the cytoskeleton of eukaryotic cells. These so-called virulence proteins interfere, for example, with a signaling cascade containing small guanosine triphosphate (GTP)-binding proteins (-Rho, Ras, Rac, Cdc42, etc.) that direct the function of the actin network of host cells. The virulence proteins appear to bind in a very specific manner to GTP-binding proteins and promote rearrangements of the actin network that benefit the microbe.--

D45

IN THE CLAIMS

Kindly consider the following amended claims:

D 46

58. (Amended) The vaccine of claim 55, wherein said pathogen adhesin molecule functionally mimics a ligand for said host adhesion molecule.

62. (Amended) The vaccine of claim 59, wherein said host adhesion molecule is a receptor for an integrin, and said host adhesion molecule is a member of the immunoglobulin superfamily selected from the group consisting of ICAM-1, ICAM-2 or ICAM-3, VCAM, NCAM and PECAM.

D47

64. (Amended) The vaccine of claim 59, wherein said host adhesion molecule is a receptor for a selectin, and said host adhesion molecule presents a residue from the group consisting of residues of N-acetylneuraminic acid, sialic acid, N-acetylglucosamine, N-acetylgalactosamine, glucosamine, galactosamine, galactose, mannose, fucose and lactose.

D48

105. (Amended) The therapeutic composition of claim 100, wherein said pathogen adhesin molecule functionally mimics a ligand for said host adhesion molecule.

D49

109. (Amended) The therapeutic composition of claim 106, wherein said host cell adhesion molecule is a member of the immunoglobulin superfamily selected from the group consisting of ICAM-1, ICAM-2 or ICAM-3, VCAM, NCAM and PECAM.

D50

Kindly consider the following new claims:

Rule 1.126

D51

112. ~~113.~~ (New) The vaccine of claim 55, wherein said pathogen adhesin molecule binds to a host adhesion molecule that binds to a selectin.

113. ~~114.~~ (New) The vaccine of claim 55, wherein said pathogen adhesin molecule binds to a host adhesion molecule that binds to an integrin.--